

FORT MCKINLEY,  
DOUBLE MINE BUILDING  
On east side of East Side Drive approximately  
125 feet south of Weymouth Way  
on Great Diamond Island  
Portland  
Cumberland County  
Maine

HAER No. ME-59-D

HAER  
ME  
3-PORT,  
27D-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
Northeast Region  
Philadelphia Support Office  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, P.A. 19106

HAER  
ME.  
3-PORT,  
27D-

**HISTORIC AMERICAN ENGINEERING RECORD  
FORT MCKINLEY,  
DOUBLE MINE BUILDING**

**HAER No. ME-59-D**

**Location:** On east side of East Side Drive approximately 125 feet south of  
Weymouth Way on Great Diamond Island  
Portland, Cumberland County, Maine

UTM: 19.404060.4836810  
Quad: Portland East, ME, 1-24,000

**Date of Construction:** 1904/05

**Architects & Engineers:** Army Corps of Engineers

**Present Owners:** McKinley Partners Limited Partnership

**Present Use:** Vacant

**Significance:** Fort McKinley attains significance as the largest of Portland Harbor's five military complexes built in the late 19th and early 20th centuries. The fort protected Maine's principal city with one of the most well-defended harbors in the country. The Double Mine Building is the only one of its type built at the fort. It was built as the prototype of the Sewell construction technique. Like the two mine casemates, the Double Mine Building was the location for monitoring and controlling mines in the harbor channels.

**Project Information:** This is one of nine structures at the fort to be documented in accordance with the Memorandum of Agreement of 1989 as a mitigative measure prior to partial demolition of the structure.

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## LOCATION

Fort McKinley occupies the northern half of Great Diamond Island in Maine's Casco Bay and is a part of the City of Portland. The Double Mine Building is located on the South Fork of the island within bounds of Fort McKinley. It is set close to the road in a wooded area on the east side of East Side Drive, approximately 125' south of Weymouth Way.

## DESCRIPTION

The Double Mine Building is in very poor condition. The roof has completely collapsed on the front portion of the building and the rear portion is partially collapsed. Nearly all sash are missing and the interior has been exposed to the weather for a number of years. The building is nearly square, measuring 33' x 33' 6", and is partially set into a manmade hillside so that it is fully exposed on the west side but only the upper four feet are visible from the east. The roof height of the western half of the building is approximately four feet lower than that of the eastern half. The structure was built using the Sewell Method of construction. This technique uses cement plaster over steel mesh on a wood or steel frame. These buildings had concrete foundations and the unpainted exterior took on a cream or light tan color. Both sections of the building have shallow hip roofs. The building is divided on the interior by a central party wall (running east-west), creating a mirror image plan to either side of the party wall. There is a separate entry to each half of the building. Entries are located next to one another at the center of the west elevation. Only the southernmost door remains. It is a wood door with 12 small glass panes over a rectangular lower wood panel. Symmetrically flanking the entries are four windows. Additional fenestration includes one smaller paired window at the north elevation (containing 18-pane sash in each half) and a single small window at the south elevation (containing and 18-pane sash). The eastern raised portion of the building has long narrow windows (one pair at each elevation) circumscribing the building. Sash throughout was wood and although most are missing, the original plans indicate those at the west elevation were 20/20 double hung sash. The narrow windows in the eastern portion of the building have interior panelled wood shutter and appear not to have been glazed at all. All windows and doors are framed with simple unmolded wood trim.

As noted previously, the interior is divided into two halves by a party wall. Each half is again partitioned into two rooms. The eastern room of each has a higher floor level which is reached by means of a small wood staircase. There is a closet under both staircases. A band of sliding windows runs along the wall between the east and west rooms. These windows are not glazed but rather have wood panels (many now missing). Due to the level of deterioration, it is difficult to determine exact interior finishes but it appears that the building had hardwood floors, rough plaster ceilings and windows framed by flush wood trim. The only openings in the party wall are at the eastern end where there is a doorway (door missing) and a long narrow window. The window contains a sliding wooden panel.

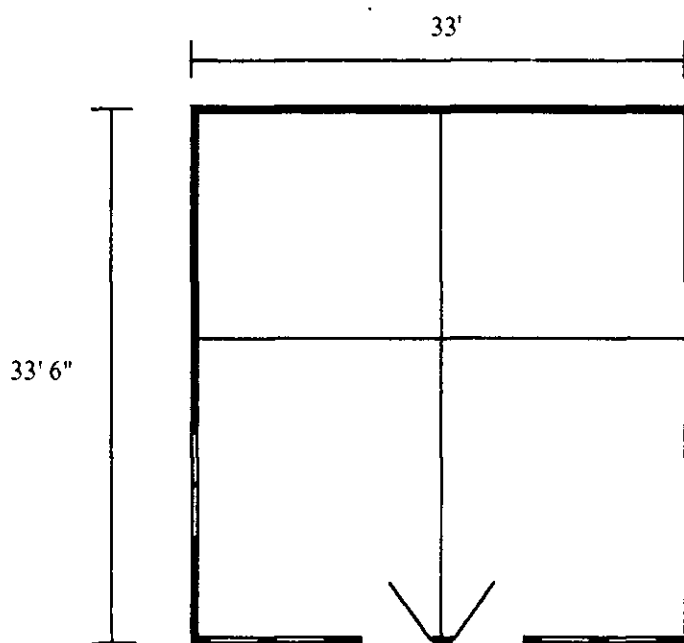
## **HISTORICAL BACKGROUND**

Establishment of Fort McKinley was part of a larger effort by the government to provide strategic harbor defenses throughout the country, a practice begun in the late eighteenth century. Fort McKinley was the largest of four new fortifications established to protect the many avenues of entry into Portland Harbor at the turn-of-the-century. It was situated to deter entrance into the harbor from the north, particularly by way of Hussey Sound and Broad Sound. Plans for Fort McKinley included construction of nine gun batteries and facilities to mine the two major channels. Construction of the fort began in 1891 but work was slowed by the war with Spain in 1898. Only the mining facilities had been completed, consisting of two mining casemates; one on both the north and south portions of the fort. These casemates contained the operating rooms for the mines.

In 1905, under President Theodore Roosevelt, a board was appointed to evaluate the country's defenses. The Taft Board, headed by Secretary of War William H. Taft, made recommendations to improve the existing system for controlling the guns and mines. In response to the Taft Board recommendations, the Double Mine Building was constructed, providing a more advanced control and monitoring system for the mines. The Double Mine Building was used for observation of the mine field. From here they plotted the locations of the mines, monitored ships coming into Hussey Sound, and instructed the mining casemates. The Double Mine Building was the prototype for the Sewell method of construction. After undergoing extensive testing (gun firing to test stability from concussion), this structure was compared to others of varying materials constructed elsewhere. Ultimately, this Sewell-type construction was adopted as the standard and this prototype building was turned over to the artillery in 1907.

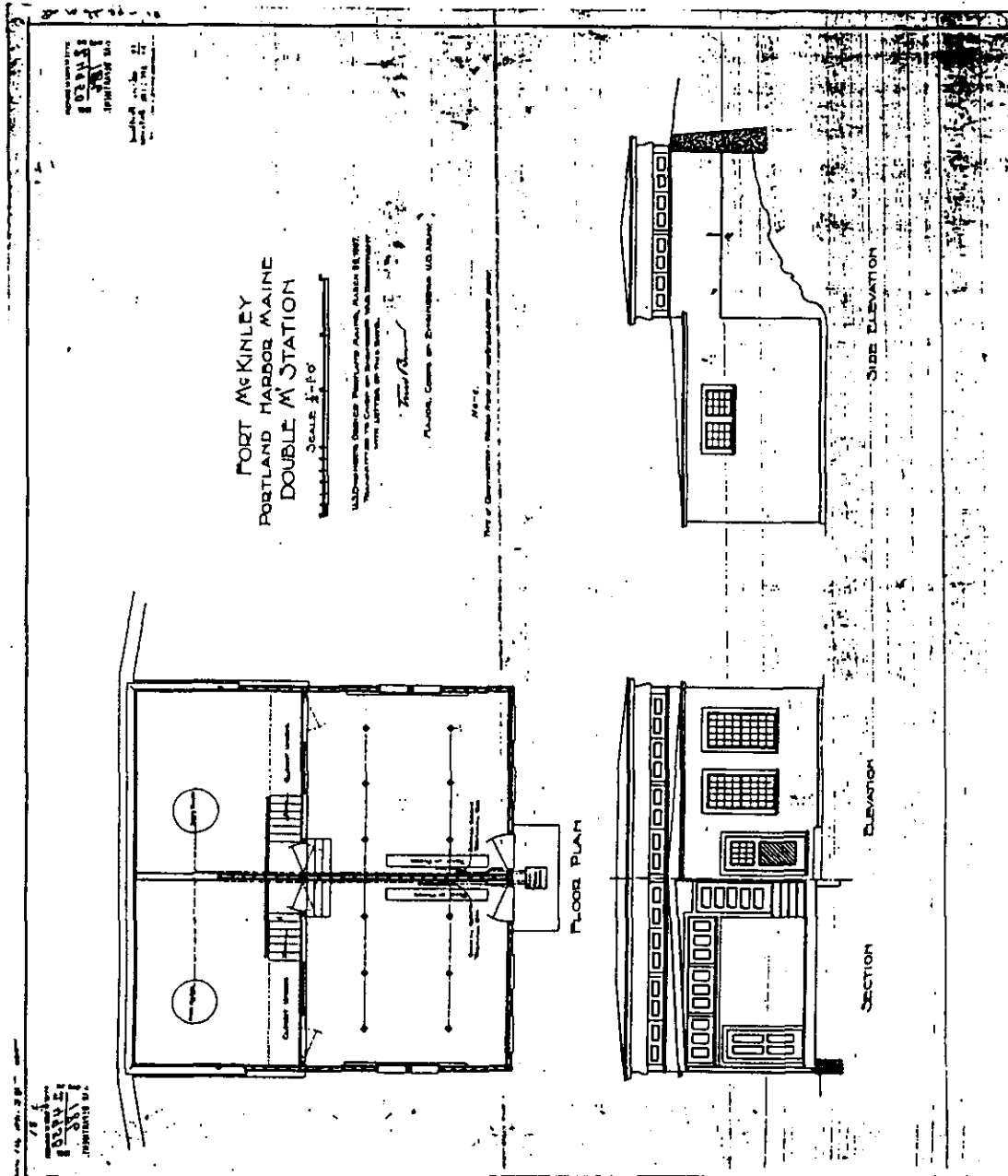
During WWII the Navy also established a strong presence in Portland Harbor, sharing responsibility for defense of the area with the Army. The Navy undertook a number of measures to supplement the work of the Army, including rigging submarine nets and sinking old ships between the islands and the mainland to completely enclose the harbor. By doing this, the batteries and mining facilities on the north and east shores of Fort McKinley were rendered superfluous. Consequently, only one battery at Fort McKinley needed to be manned. By 1943, as the threat of a major attack became unlikely, build-up of the coastal defenses greatly diminished and were virtually halted by 1940. Experiences during WWII, such as amphibious landings, air strikes, and the development of nuclear weapons and missiles all contributed to making harbor defenses like Fort McKinley obsolete. In 1950 the Coast Artillery was dissolved, the U.S. Army harbor defense commands were disbanded, and the forts were abandoned.

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Double Mine Building  
Floor Plan  
[not to scale]

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Double Mine Building  
Original Plan at National Archives (file no. DR 10-34-18)